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NATIONAL VETERINARY MEDICAL ASSOCIATION

PRESIDENT'S NEW YEAR MESSAGE TO MEMBERS

To All Members of the National Veterinary Medical Association

"NEVER has a New Year dawned with less promise for the veterinary profession, or have we been less able to see clearly what our duty is or where it lies."

Such was the burden of the presidential message so short a time ago as 1940. Now, three years later, almost the very opposite can be claimed as a truthful statement of our present outlook. Such has been the response of the profession to the autogenous plans initiated in justification of our reservation as vital to war-time agriculture that we may well be proud of our work, undertaken so willingly, and under all the circumstances often for less remuneration than we know to be adequate.

We cannot as yet relax. Great watchfulness will yet be needed that in the field of veterinary education no well-intentioned mistakes be made by ourselves or be permitted to become imposed upon us from without. The views of the Association on post-war veterinary education have most explicitly been made contingent upon a vigorous and healthy post-war agriculture. In short, we do not move in this matter until the road is made clearer to us.

The coming months will bring important decisions in the field of work controlled by the Animal Health Division of the Ministry of Agriculture. I am satisfied that the goodwill of both sides will eventually bring about agreement on points of detail in the scheme for calf vaccination.

While I have had it urged upon me that I ought to regard the coming year as a time for consolidation of recent gains, I do not think it is right to neglect consideration of problems still to be tackled. I cannot but feel that the time is ripe for careful consideration and if possible for the promulgation of our views in regard to the need for a scheme to eradicate bovine tuberculosis from our islands. It is of course a long-term problem of great complexity, but other nations have shown us that five- or ten-year plans, with a goal to be reached annually, can achieve apparent impossibilities.

My year of office coincides with the centenary year of the Royal College of Veterinary Surgeons. I am therefore proud, at the outset of this year, to be the mouthpiece of the National Veterinary Medical Association in proffering our good wishes and congratulations to our governing body with the hope that they may continue to guard our interests for further centuries as they have done heretofore.

I cannot close my New Year message of greeting without an expression of great good wishes to our staff at Gordon Square. Whatever the pressure of events, however great the shortage of hands available to deal with those events, they one and all remain imperturbably cheerful, industrious and optimistic. To them and to all our members go my heartfelt wishes for a happy and still more prosperous New Year.

Reginald G. Hancock.

January 1st, 1944. *President.*

Lesser Known Lesions of Diagnostic Value in Bovine Trypanosomiasis

F. G. WADDINGTON, B.V.SC., M.R.C.V.S.
Tanganyika Territory

Introduction

The following notes are based on intermittent observations of cases of bovine trypanosomiasis due to infection with *Trypanosoma congolense* or *T. vivax* seen under normal field conditions in Tanganyika Territory. These were observed among native-owned zebu cattle living in close proximity to tsetse infested bush, the chronic form of the disease, having a protracted course with progressive wasting and anaemia, being the one most commonly seen. The affected cattle received no treatment, and the clinical pictures presented were those of bovine trypanosomiasis running a natural uninterrupted course from first infection to a fatal termination in some cases, or past the crisis with spontaneous recovery in others.

Text-books convey much the same descriptions of trypanosomiasis. For example:

". . . the chronic form is that most commonly seen and is the only one which may be regarded as the most typical form of trypanosomiasis. In the early stages of the infection, exacerbation of temperature and accompanying symptoms will be observed, to be succeeded later by lesions of anaemia. The working animal will manifest weakness and inability to perform its work. The coat becomes staring and rough and an emaciation is noticeable. The conjunctival mucous membranes are at first injected and later become blanched and even slightly icteric, and very commonly show marked petechiae in the substance of the membrana nictitans.

"The appetite of all animals commonly remains and is frequently increased. The discharge of urine and faeces continues normally, although polyuria is occasionally noticed. . . . Progressive weakness is manifested by a swaying movement, knuckling over, inability to rise and later by the formation of bed-sores.

"Death may supervene at any time, up to about a year from the time of infection the duration varying with the species of trypanosome concerned, and the individual idiosyncrasy of the particular species of animal affected.

"Diagnosis.—It will be observed from the foregoing, that a diagnosis from a clinical picture is extremely difficult, unless the action of any particular species of trypanosome can be suspected; the detection of this organism in the body fluids is the only certain method of arriving at a diagnosis." (Montgomery and Sheather.)[1]

The lesions seen in trypanosomiasis are described thus: "There is much emaciation. The spleen is enlarged and a serous exudate is present in the serous cavities with ecchymoses on the serous surfaces. Congested areas are found in the stomach and intestines." (Gaiger and Davies.)[2]

There are two other features of chronic bovine trypanosomiasis due to *T. congolense* and *T. vivax* not mentioned in the relevant literature consulted by the writer which should be included in the description of the clinical picture of the disease. These are (*a*) dermatitis and loss of hair at the end of the tail, and (*b*) ulceration of the tongue. These two lesions, when they occur concomitantly with symptoms of emaciation and anaemia, are, in the writer's opinion, pathognomonic for chronic trypanosomiasis and justify a positive diagnosis of the condition from a clinical examination alone, without resort to the microscope.

(*a*) Dermatitis and Loss of Hair at the End of the Tail

When describing the appearance of a "fly-struck" ox, some writers refer to the general loosening and falling out of the animal's hair, but no particular attention is paid to the dermatitis and loss of hair in the brush region of the tail. Poor condition of the skin with loosening of the hair is often seen in cases of chronic trypanosomiasis, but it is only in the advanced stages of the disease that this becomes obvious. Bald spots are then likely to be seen on the body of the animal, although looseness of the hair may be detected, by pulling with the fingers, at an earlier stage. This condition is probably due to the general debility of the "fly-struck" animal which would bring about malnutrition of the skin. But similar looseness of hair and alopecia may be seen in old age and in debility due to causes other than trypanosomiasis and these symptoms, therefore, can hardly be regarded as distinctive for trypanosome infection.

On the other hand, the writer is of the opinion that the condition to be seen in the brush region of the tail offers specific evidence of chronic trypanosomiasis. Early in the course of the disease the hair of the tail brush becomes loose and may easily be pulled out. As the disease progresses and the condition of the animal grows worse, this looseness increases, hair may fall out on its own and the brush becomes obviously thinner and, in some cases, the whole of the brush may be lost. Closer examination of the tail reveals that in addition to the falling of the hair there is also, in many cases, a marked dermatitis in the brush region. The skin becomes thickened, cracks develop in it, and from these a slight exudate escapes, which may be clear and serous or, in some cases, slightly haemorrhagic. The exudate dries and small scales or crusts are formed around the bases of the hairs. The loosening of the brush hairs, which occurs much earlier than the general loosening of the hairs on the rest of the body, is probably due to the dermatitis.

The dermatitis and loss of hair continue during the course of the disease and observation of these symptoms affords some indication of the progress of the trypanosomiasis. In the early stages the looseness of hair and the dermatitis are only slight, becoming more marked as the active disease runs its course, in some cases to a fatal end. If the case is a non-fatal one, and spontaneous recovery begins, the passing of the crisis is manifested by the condition of the tail. The dermatitis then subsides and the hairs which remain become firmly rooted again. This fact is known to the more observant native cattle owners, who recognise that an animal is recovering when the tail lesion begins to heal.

The writer is not aware of any other disease syndrome in which a similar condition of the tail is to be seen, and he suggests that the tail lesion should be regarded as the result of the specific action of the trypanosomes. He advances the view that the skin lesion on the tail, in chronic *T. congolense* and *T. vivax* disease, is analogous to the exanthematous lesions observed in *mal de Caderas*, and to a lesser extent to the transient ones of dourine.

Mal de Caderas lesions are described thus:—

"In some cases, lesions develop in connection with the skin. These lesions take two forms. Raised areas measuring an inch or two in diameter make their appearance. Frequently the hair is shed over these patches and in some cases it can be seen that the skin is covered with thin crusts of dried exudate. If these be removed, it is found that the skin is inflamed and shows a number of cracks or fissures from which the exudate escapes. These lesions are most frequently found on the neck and loins." (Sheather.)[3]

Again, in dourine, skin lesions, though only of a transient nature, are seen:—

". . . later on, the parasites multiply under the skin in various parts of the body and give rise to small flattened oedematous patches or plaques which come as a rule singly, but rarely, quickly vanishing and easily escaping observation." (Watson.)[4]

It is suggested, therefore, that some trypanosome infections are characterised by exanthematous lesions and that the tail lesion described indicates that chronic *T. congolense* and *T. vivax* infections should be placed in this category.

(*b*) Ulceration of the Tongue

The writer has consistently observed ulceration of the upper surface of the tongue in cases of chronic bovine trypanosomiasis due to *T. congolense* and *T. vivax*, but can find no reference to this in the available literature on the subject. This lesion, which develops early in the disease, is to be found on the upper surface of the tongue just anterior to the dorsum, commencing in the transverse groove which separates the dorsum from the free portion of the organ. At first, the mucous membrane at this site is inflamed, later the epithelium is excoriated and an ulcerated area is left. The size and shape of the ulcer vary considerably in different cases, but the initial site of the inflammatory process seems to be constantly in the mid-line, just in front of the dorsum. In one case, however, examined by the writer, the ulceration extended from the groove laterally to the right side of the tongue, and then forwards along the right side of the organ almost to its tip. It is possible that the extensive inflammation and ulceration, in this case, were due to secondary infection at the original site of the lesion. The animal in question was infected with *T. congolense* and was in an advanced stage of the disease.

The ulcer generally does not exceed one inch in diameter and frequently may be less than this.

Ulceration of the tongue appears to develop early in the disease and an active inflammatory process continues during the active stage of the disease, with possibly extension of the ulceration. If the case terminates fatally, the tongue lesion is evident to the end and is to be seen at the *post-mortem* examination. Analogously to the evidence offered by a tail lesion, the state of the tongue lesion may be taken as a guide to the progress of the disease. In those cases in which spontaneous recovery occurs, the inflammation around the ulcer subsides and the ulcer itself begins to heal when the crisis is passed and the host starts to gain the upper hand over the trypanosomes. During the period of convalescence repair of the ulcer proceeds apace and complete healing of the surface of the tongue takes place.

These notes are written only from clinical examination of cases and from macroscopic *post-mortem* examinations carried out under field conditions; consequently the writer regrets that he cannot give any histological details of the tongue lesion.

The writer also regrets that, under field conditions, he has not been able to collect any exact data upon the period that elapses from the time of infection to the time of development of the ulcer, and how soon healing of the ulcer follows the final disappearance of trypanosomes from the blood stream. He is impressed, however, by the constancy with which the tongue ulcer occurs in chronic trypanosomiasis, and by the manner in which the active inflammatory changes or the healing processes of the lesion keep pace with the activity or cessation of activity, respectively, of the trypanosomes in the host, as evidenced by the deterioration or improvement in the condition of the affected beast. He suggests that, similarly to the development of the tail lesion, the tongue

lesion is due specifically to the activity of the causal trypanosomes. If the ulcer on the tongue is indeed due to the action of the parasites, it is then of particular interest in that it is somewhat contrary to the belief that ulceration is not considered to be a likely lesion in trypanosomiasis.

For example, in discussing the differential diagnosis of dourine and coital exanthema, one writer states:—

"The vesicles and ulcers of coital exanthema have no analogy in dourine, though statements to the contrary are made in some of the earlier works and repeated in some of the later descriptions of dourine. It is extremely doubtful, if an ulcer ever results from dourine *or from any other trypanosome infection.*" (Watson.)[4] (The italics are mine.—F. G. W.)

Symptomatic Diagnosis of Chronic Bovine Trypanosomiasis due to *T. congolense* or *T. vivax* Infection

The tail and tongue lesions described above occur with such frequency in chronic bovine trypanosomiasis that they may be regarded as valuable aids to a positive diagnosis of the condition from a clinical examination alone, without microscopic examination of any of the body fluids of the affected ox. The writer has not obtained details from a sufficiently large number of cases to enable him to say in what percentage of affected cattle each of the lesions occurs, but he feels confident in saying that the tail lesion is developed to some degree in the great majority of cases and the tongue lesion with equal, or possibly greater, frequency. During the active stage of the disease, *i.e.*, while trypanosomes are still to be found in the blood, the degree of development of the tongue lesion is often more marked than that of the tail. There may be definite ulceration of the tongue, while the tail may only show some loosening of the brush hairs and possibly slight dermatitis. Later the tail lesion may become more fully developed, and the whole, or greater part, of the brush may be lost.

In non-fatal cases, during the recovery period, the converse may be observed. The tongue heals rapidly, whereas the tail dermatitis takes longer to disappear and no regrowth of hair takes place, so that an animal which has passed the crisis some time previously may show a normal tongue, but a more or less hairless end to its tail. Such brushless cattle which have recovered from trypanosomiasis are often seen among herds residing in the vicinity of tsetse infested bush.

Under field conditions it is not always expedient to use the microscope for diagnostic purposes. There may be considerable delay before slides can be stained and examined. Slides from cattle even in the active stage of the disease do not constantly show the trypanosomes and the observer may just be unlucky in taking slides at a time when the parasites are not to be seen in the blood. Finally, an animal may still appear to be very ill, but at the same time it may have just passed the crisis and its blood will be free from trypanosomes. A means of arriving at a positive diagnosis, from a clinical examination alone, is therefore of some value, though, of course, the microscope will be necessary for the identification of the species of the causal trypanosome. The identification of the tongue and tail lesions holds further possibilities as an aid to clinical diagnosis and also to some extent prognosis of cases of trypanosomiasis.

When the tongue and tail lesions, both in an active state, are seen both together, with or without signs of anaemia and loss of condition of the patient, they are, in the writer's opinion, proof of *T. congolense* or *T. vivax* infection. Active inflammation around the site of the tongue ulcer and an active dermatitis on the tail indicate that the infection is still progressing and trypanosomes are likely to be found in the blood. The presence of the tongue lesion in an active state, associated with loss of condition and signs of anaemia, but without any marked changes on the tail, would still justify a diagnosis of active trypanosomiasis. A well developed tail lesion and a tongue lesion in which healing is seen to be taking place, would indicate that the case is one of trypanosomiasis in which the crisis has been passed and recovery has begun. A tail lesion still showing slight dermatitis, occurring along with emaciation and anaemia but with no ulceration of the tongue to be seen, would indicate, in the writer's opinion, that the subject had been "fly-struck" but was well on the way to recovery.

An animal in poor or fair condition, with no signs of a tongue lesion and having a more or less hairless brush region with no dermatitis, may be regarded as a completely recovered case of trypanosomiasis, providing that accidents can be ruled out, as the reason for the loss of the tail brush.

(It is not uncommon for hyaenas to nip off the tail of feeble or old cattle; and the tail inoculations against contagious bovine pleuro-pneumonia may, at times, cause the loss of a portion of the end of the tail. The results of such accidents might be confused with loss of the brush hairs only.)

It will be appreciated that various intermediate stages of development or regression of each of the two lesions discussed may be observed, from which appropriate deductions as to the stage of the disease may be made.

The table gives details of the clinical examination of ten specimen cases of bovine trypanosomiasis in various stages of the disease.

Clinical Examinations of Ten "Fly-struck" Cattle

Subject.	Approximate Interval between Start of Disease and Time of Examination	State of Disease at Time of the Examination	General Condition of the Animal	Tongue Lesion	Tail Lesion. Brush Region
1. Heifer ..	Two months	Active. Blood film positive, *T. vivax*	Poor. Staring coat. Anaemia marked	Well developed ulcer, active inflammation	Hair loose, some lost. Slight dermatitis.
2. Bullock ..	" "	Active. Blood film positive, *T. congolense*	Very poor. Very anæmic.	Large ulcerated area, top and side of tongue	Brush partially lost. Dermatitis marked.
3. Cow ..	Four "	Recovered. Blood film negative	Poor. Some anaemia	None to be seen	Brush completely lost. No dermatitis left.
4. Cow ..	" "	Convalescent. Blood film negative	Poor. Slight anaemia	Ulcer almost healed	Brush lost completely. Slight dermatitis.
5. Cow ..	Three "	Convalescent. Blood film negative	Poor. Anaemic	Large ulcer part healed	Brush lost. Skin thickened.
6. Calf ..	Two "	Convalescent. Blood film negative	Poor. Slight anaemia	Slight trace of healed ulcer	Brush partially lost. Other hairs firm.
7. Cow ..	One year approx.	Completely recovered, for some months. Blood negative	Fair. No anaemia	Absent	Brush all lost. Skin normal.
8. Cow ..	Three months	Convalescent. Blood film negative	Poor. Anaemic	Small ulcer healing	Brush partially lost. Skin thickened.
9. Bullock ..	Two "	Active. Blood positive, *T. vivax*	Poor. Staring coat. Anaemia marked	Small ulcer, active inflammation	Hair loose, little lost. Dermatitis marked.
10. Bullock ..	" "	Active. Blood positive, *T. congolense*	Poor. Anaemia marked	Ulcer present. Active inflammation	Brush partially lost. Dermatitis marked.

Summary

(*a*) Lesions of the tail and tongue, observed in chronic bovine trypanosomiasis due to *T. congolense* and *T. vivax*, are described.

(*b*) The view that these lesions may be due specifically to the action of the causal trypanosomes is advanced.

(*c*) The value of the tongue and tail lesions, as aids to clinical diagnosis and prognosis, is discussed.

(*d*) Details of the clinical examination of ten specimen cases of chronic bovine trypanosomiasis are given.

References

[1] Montgomery and Sheather in Wooldridge's "Encyclopaedia of Veterinary Medicine and Surgery." 1934 edition.
[2] Gaiger and Davies. "Veterinary Pathology and Bacteriology." 1932 edition.
[3] Sheather in Wooldridge's "Encyclopaedia of Veterinary Medicine and Surgery." 1934 edition.
[4] Watson in *Ibid.*

Weekly Wisdom

Although the work done by scientific specialists as a body is of the utmost importance to mankind, there is no reason for thinking that the individual specialists themselves, any more than the pyramid builders, are possessed of an order of mind that would safeguard them from the current illusions of their time.—Crozier: "The Wheel of Wealth."

CLINICAL COMMUNICATION

Use of Stilboestrol in Treatment of Hydrops amnii

PAUL CROSFIELD
Chipping Norton

Subject.—An aged cross-bred Hereford cow, in-calf seven months.

History.—When visited on September 29th, the cow was recumbent and quite unable to rise. A diagnosis of hydrops amnii was made and stilboestrol (B.W.) mgm. 40 administered. As there was also complete cessation of defaecation, istin gm. 10 was also given.

The cow was next seen on October 1st, when the owner reported that great quantities of fluid had come away during the previous night. Examination showed the os uteri to be fully patent and a small hairless foetus of about five months development was easily removed. Pituitrin and stimulants were given, but the cow died on October 2nd.

The case is recorded, despite its fatal termination, as the writer has not seen any record of the use of stilboestrol in this condition. As it promptly relieved the dropsy, it seems worthy of more extended trial.

REVIEW

[Gestation Periods. A Table and Bibliography. Compiled by J. H. Kenneth. Pp. 23. Imp. Bureau of Animal Breeding and Genetics. 1943. 2s.]

The veterinary surgeon, especially if he be engaged in general practice, is sometimes regarded by the lay public as being something akin to the Delphian oracle in all that pertains to animals, whether domesticated or wild. A question often asked of him is, "What is the gestation period of X?" X being any animal from the house mouse to the elephant, or from the agouti to the zebra, and while the facts regarding domestic species may come readily to mind, those anent the majority of wild animals are less easily recalled. Such knowledge as exists is to be found for the most part only in the pages of inaccessible journals. The compilator of these gestation tables for most of the known mammals has performed a service in gathering together such data from a wide variety of sources. Gestation periods for domestic species are also included, and it is interesting to note that there appears to be considerable breed variation within some species. Thus in cattle, the average length of gestation for the Aberdeen Angus is given as 272·8 days, while most other breeds approximate to 280 days.

This publication should prove a useful reference book to the veterinary surgeon, particularly to those interested in the wider zoological field beyond the domestic species.

N. J. S.

SYNTHETIC OESTROGENS IN MALIGNANT DISEASE OF THE PROSTATE

Professor E. C. Dodds, Courtauld Professor of Biochemistry in the University of London and Director of the Courtauld Institute of Biochemistry, Middlesex Hospital, at the recent annual general meeting of the British Empire Cancer Campaign in London drew attention to "the dramatic and striking results obtained by the treatment of malignant disease of the prostate with synthetic oestrogens." Some further details are given in the 20th annual report, 1943, of the B. E. Cancer Campaign. The report says that recent American publications on the use of synthetic oestrogens in the treatment of carcinoma of the prostate have been carefully investigated. One case has been studied very carefully, and the variations in the acid and alkaline serum phosphatase have been observed. In one case the results of the American observers have been completely confirmed in the twelve months that the patient has been under treatment. It is hoped to extend these investigations.

During the year seven cases of carcinoma of the prostate have been treated with stilboestrol in the Royal Cancer Hospital. Two cases appeared to derive no benefit either locally or generally, but in five in which there was evidence of secondary deposits in bone, the work of American authors has been confirmed. In these cases stilboestrol caused a fall in the serum acid phosphatase level and produced some degree of regression in the primary growth. Pain due to metastases was relieved, while in one case regression of a lymph node deposit was recorded. No case has been under observation for a period sufficiently long to allow of comment upon the radiographic appea-

ABSTRACTS

[Equine Periodic Ophthalmia. Jones, T. C. (1942.) *Amer. J. vet. Res.* **3**. 6. 45-71. (25 figs., 1 table, 39 refs.).]

As suggested by the author, a better name for this disease would be recurrent irido-cyclitis, to agree more closely with its clinical and pathological manifestations. Undoubtedly it is a disease of horses and mules of some moment in the United States and is probably the commonest cause of blindness. It occurs in animals of five or six years or over and there is evidence to show that it is transmissible from one subject to another. Present knowledge of the condition is reviewed and discussed with a view to determining the lines upon which investigational work must be done in the search for the causative factor. The author examines the rôles played by bacteria, viruses, heredity, nutrition, allergy and parasites and concludes after conducting *post-mortem* examinations and histo-pathological studies on 39 cases, that a combination of the last two is more likely to be the incriminating factor although suspicion still centres around the possibility of a virus infection.

Acute, quiescent and old cases are recognised and the symptoms, course, diagnosis, treatment and pathology in each case are fully described.

Examination of the horse's eye, including the use of the ophthalmoscope, is described with far greater lucidity than is generally found in veterinary text-books and this description could be perused with advantage by all interested in veterinary ophthalmology.

C. F.

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[Synthetic Thyroprotein, A New Drug available in Veterinary Practice. Reineke, E. P., and Turner, C. W. (1943.) *J. Amer. vet. med. Ass.* **102**. 105.]

The discovery that the injection of thyroxine into cows with a falling milk yield not only raised the yield to above its normal but increased the fat content, provided a great stimulus to further research in this sphere, and the authors refer briefly to the successive stages which have led up to the manufacture of thyroprotein, a product four times more potent than the natural thyroid powder. This development has, at last, made the treatment of thyroid deficiencies of domestic animals an economic proposition.

Experimentally it has been shown that this substance appears to be able to replace the secretion of the thyroid completely and when fed to normal experimental animals in small quantities will increase the growth rate by as much as 25 per cent. It is suggested that it may hasten maturity if fed to beef or breeding animals.

After the period of rapid growth has come to an end in domestic animals the activity of the thyroid gland tends to slacken, the metabolic rate falls and sex activity in both the cow and bull becomes less. This is commonly associated with an over-fat condition. Such animals are probably close to the border-line cases of hypothyroidism. In humans irregularities in the oestrus cycle and habitual abortions have responded well to thyroid therapy. Further, it is suggested that old draught-horses of reduced vigour might benefit by a course of thyroid.

In general it must be remembered that the effects required will decide the dosage adopted for, whereas small doses increase growth rate and vigour, massive doses retard growth and deplete the body stores of fat, protein and carbohydrate.

[Research in this country has been equally active although it is doubtful whether English workers are yet willing to allow uncontrolled commercial production and distribution of this product.]

N. S. B.

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[The Nerve Supply to the Bovine Mammary Gland. St. Clair, L. E. (1942.) *Amer. J. vet. Res.* **3**. 10-16. (3 figs., 1 ref.).]

Innervation of the udder is by sensory and sympathetic fibres through the medium of the inguinal, ventral branches of the first and second lumbar, and perineal nerves.

The inguinal nerve arises from the ventral branches of the second, third and fourth lumbar nerves. It divides at the internal inguinal ring into anterior and posterior branches. The anterior branch supplies the fold of the flank, the anterior part of the fore quarter and the anterior part of the fore teat. Innervation of the glandular tissue by this branch is slight. The posterior branch further divides into several branches to supply mainly the skin of the lateral part of the fore quarter and the posterior part of the fore teat. It also sends fibres to the glandular tissue of the hind quarter and the posterior portion of the fore quarter. This posterior branch is also responsible for the innervation of the hind teat and the skin of the hind quarter with the exception of its posterior aspect.

The ventral branches of the first and second lumbar nerves innervate the anterior part of the udder, mainly skin.

The perineal nerve, a branch of the pudic, passes over the ischial arch to the perineal region, whence it descends to supply the posterior aspect of the corresponding quarter as far as the base of the teat.

The sympathetic fibres are vaso-constrictor to the vessels and motor to the smooth muscles of the udder. The author has shown that the sympatheic fibres do not pass to the udder by way of the posterior mesenteric plexus as was previously thought, but by way of the spinal nerves.

It is suggested that for surgical interference about the udder and teats anaesthesia can be efficiently effected by paravertebral block.

For teat operations the second, third and fourth lumbar nerves are blocked on the side required. To ensure anaesthesia of the whole gland the first, second and third and fourth lumbar nerves on both sides must be blocked along with the perineal nerves. The latter are injected just below the vulva on either side of the midline. It is recommended that the second, third and fourth lumbar nerves be injected close to the intervertebral foramina where the branches which go to form the inguinal nerve pass between the two psoas muscles.

C. F.

* * * * *

[A "Staggers" Syndrome in Sheep and Cattle Associated with Grazing on *Phalaris tuberosa.* McDONALD, I. W. (1942.) *Austral. vet. J.* **18.** 182-189.]

P. tuberosa is a perennial grass which has recently been widely used in Australia in seed mixtures for permanent pastures. The result has been an increase of so-called "staggers" in cattle and sheep, other animals appearing to be non-susceptible. The grass becomes "toxic" during its period of most rapid growth when the rains come after a long dry period. As the grass is not toxic on all premises, however, it is thought that the nature of the soil may be significant, its chemical nature or the existence of a deficiency being responsible for the toxicity of the grass.

The symptoms, best known in sheep, may be acute or chronic and tend to be precipitated by shock. These appear one to three weeks after the sheep have been put on pasture where *P. tuberosa* grows and may disappear in mildly affected animals when removed from such pasture.

There is an inco-ordination of gait, movement is slow, the legs are stiff, there is great difficulty in extending the legs fully and the hindquarters sway. There is every indication of nervous excitability indicated by stamping, twitching of the ears and violent shaking or nodding of the head; respiratory distress may also be evident to such an extent that the animal lags behind the flock, panting and exhausted. If allowed to rest partial recovery occurs. In cattle symptoms are much the same, the chief features being inco-ordination and muscular tremors sometimes associated with excessive salivation and inability to swallow. On attempting to run the animal falls to the ground and struggles ineffectually to rise.

Post-mortem changes were sparse and not consistent. Subendocardial haemorrhages were commonly found and, in about 50 per cent. of the cases, there was an excess of fluid in the pericardial sac and the pleural cavities and the kidneys were markedly discoloured.

Histological examination revealed degeneration in latero-ventral tracts of the spinal cord and a marked, though variable, degree of haemosiderosis affecting the liver, spleen and kidneys.

Though no direct treatment is possible controlled grazing with access to pastures not containing the grass and ensuring that the animals receive an adequate comprehensive diet, will go a long way to avoid loss.

N. S. B.

ROYAL ARMY VETERINARY CORPS

The following announcement is made in the issue of *The London Gazette* dated December 17th, 1943: To be Lts.—John Craig (301508). Thomas Michael Leach (297319) (November 18th, 1943).

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QUESTIONS IN PARLIAMENT

Prior to the Christmas Recess, the following questions and answers were recorded in the Commons:—

SCOTLAND (MEDICAL AND SCIENTIFIC ADVISORY COMMITTEES)

Mr. A. EDWARDS asked the Secretary of State for Scotland the names of his Medical Advisory Committee and his Scientific Advisory Committee?

Mr. JOHNSTON: As regards my Medical Advisory Committee, I am sending my hon. Friend a copy of my reply to the hon. and gallant Member for Pollok (Commander Galbraith) on February 16th, 1943. Since that date Colonel Inch has resigned from membership on account of military duties. The following are the names of the present members of my Scientific Advisory Committee:—

Sir John Orr, D.S.O., M.C., M.A., M.D., D.Sc. (Chairman); Professor Carl H. Browning, M.D., D.P.H., F.R.S.; Professor F. A. E. Crew, M.D., D.Sc., PH.D.; Professor I. de Burgh Daly, M.A., M.D.; Sir John Fraser, Bart., K.C.V.O., M.C., M.D., F.R.C.S.; Professor D. Murray Lyon, M.D., D.Sc., F.P.C.P.E., D.P.H., F.R.S.E.; Sir Alex. Macgregor, O.B.E., M.D., D.P.H.; Professor T. J. Mackie, M.D., D.P.H.; Sir Edward Mellanby, M.D., F.R.C.P., F.R.S. (Secretary of Medical Research Council); Professor W. J. Tulloch, O.B.E., M.D.

It is a practice of the Scientific Advisory Committee to delegate special investigations to expert Sub-committees to which non-members are co-opted.

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POULTRY KEEPING (EX-SERVICE PERSONNEL)

Mr. DE LA BERE asked the Minister of Agriculture whether he will confer with the Minister of Labour with a view to ensuring that poultry keeping is included on the list of trades for training ex-Service men in, especially discharged ex-Service men who have had some previous experience, since the world shortage of food would ensure that this form of earning a living has an established future?

Mr. HUDSON: The outlook for specialist poultry keeping being so uncertain for some time to come, owing to the severe shortage of feeding-stuffs and other factors, I do not consider that it would, in present circumstances be in the interests of men and women discharged from the Services to provide them with training for that business.

"LAXITY IN THE USE OF STERILISING EQUIPMENT"

"Both milk producers and distributors were condemned for lack of proper use of sterilising equipment, at a meeting of the Society of Dairy Technologists held in London at the week-end," stated *The Farmers' Weekly* in its issue of December 17th, in introducing a report from which the following extracts are taken.

The subject of the conference, which was held at the London School of Hygiene and Tropical Medicine, was "The proposed standards of 'heat-treated' milk." Dr. A. T. R. Mattick (National Institute for Research in Dairying) thought, in connection with dairying equipment, that filtration should be obligatory and filters of approved standards. He hoped to see pasteurisation equipment subject to tests at the National Physical Laboratory. Mr. A. L. Barton (Express Dairies) deplored the falling off of standards of milk. There had been a great deterioration in the 'pasteurability' of milk since the beginning of the war. It was wrong to think that 'any old milk' would do for pasteurisation. There was need for improvement of supply and of the adoption of high standards for raw milk. Mr. H. W. Walters, Chief Sanitary Inspector, Kensington, said there was great laxity with regard to use of equipment. In one London borough in 1936 all dairymen had sterilising equipment installed, and a recent inspection showed that only very few were still using it properly. Producers were criticised by Miss M. Todd, Lichfield, who stated that in comparatively few cases was sterilisation of milking machines done properly. Few farmers discarded the foremilk and still fewer washed udders. Conditions on farms in about 33 per cent. of cases were appalling and in about 50 per cent. of cases bad.

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EQUINE AND HUMAN ENCEPHALITIS

An epidemic of human encephalitis involving 2,000 cases occurred in four states concurrently with epizoötics of sleeping sickness among horses in the same communities. Investigation of some of the human cases showed that the virus of equine encephalomyelitis was the causal agent. Since 1935, there have been 447,813 cases in horses reported by the U.S. Federal Bureau of Animal Industry.—W[illegible]rence, American Veterinary Medical Association, 19[illegible].

ROYAL COLLEGE OF VETERINARY SURGEONS

Membership Examinations, December, 1943

List of Successful Candidates

(*Continued from page* 500, *December 25th*, 1943)

Edinburgh

FIRST YEAR:

Braithwaite, J. R.	Murray, D. I.
Campbell, G. A.	Renton, C. P.
Curry, G. D.	Thomas, W. U.
Ellis, P. R.	Walker, Charles
Gingles, John	Walker, Denis
Henderson, G. L. B.	

SECOND YEAR:

Bryson, Wm.	Price, E. L.
Cameron, John (H)	Roe, D. M.
Colebrook, Frank	Simms, I. H.
Mather, D. B.	Wharton, M. H. (P)
Noble, Claude	Wilkinson, L. (P)

(P) denotes credit in Physiology, etc.
(H) denotes credit in Histology, etc.

THIRD YEAR:

Arnot, C. A. M.	Low, R. J. (H)
Black, T. S. M.	Mackenzie, Finlay
Brown, D. A.	Rimmer, S. M.
Coupland, A. M. T.	Russell, A. G. M.
Dudgeon, Alex. (A)	Shearer, G. C.
Handy, D. E.	Singleton, W. B.
Hetherton, Colin	

(A) denotes credit in Anatomy.
(H) denotes credit in Hygiene.

FOURTH YEAR:

Boyle, J. G. S.	Potter, Robert
Garden, J. F.	Pottinger, F. H.
*Harkness, B. R.	Richter, W. A. G.
Murray, M. D.	Shilliday, E. A.
Oxley, Henry	Stewart, James
Porteous, A. J.	

* denotes 2nd class honours.

FINAL YEAR:

Beattie, I. S. (S)	Philip, J. G.
Coleman, J. G.	Sinclair, W. B. V.
Cox, R. L.	Thomson, W. W.
Dawson, F. L. M.	Walker, K. A.
Hooton, J. K.	Watson, A. H.
Naismith, R. S.	Young, Arch.
Park, R. C.	

(S) denotes credit in Surgery.

Glasgow

FIRST YEAR:

Campbell, A. D.	Main, William (B)
Garven, James	Malone, J. H.
Hillman, R. W.	Taylor, P. E.

(B) denotes credit in Biology.

SECOND YEAR:

Brown, Wm.	Macnair, A. J.
Evans, L. A.	Robertson, J. S.
Frame, James	Simpson, Bert.
Johnston, R. M.	Smith, Miss A.
McCulloch, J. L. M.	Torley, J. A.
McGown, S. M.	

THIRD YEAR:

Connacher, F. I.	Macdonald, D. K.
Jarrett, Thomas	Provan, J. W.
Lapraik, R. D.	Roberton, D. P.
McDonald, Andrew	Stevenson, J. B.

FOURTH YEAR:

Clarke, A. A.	Gregor, Alec.
Donald, Miss N. C. H.	Hamilton, Andrew
Forsyth, Harry	Hukku, R. N.
Gibson, J. C.	Jarvie, Thomas
Gregg, J. R.	Loughlin, James
Macfarlane, D. L.	Muir, T. H.
McKim, I. M.	Pinkney, Miss J. M.
Marksom, L. M.	Roberts, R. M.
Mitchell, David	Tarver, W. J.
Moodie, Miss M. P.	Sillars, David

FINAL YEAR:

Bryson, R. W.	Johnston, W. G.
Buntain, David	Morrison, J. G.
Clow, D. G.	Pfob, L. S.
Corrie, J. W.	Pomphrey, A. M.
Dewar, H. D.	Rankin, W. L.
Gaston, Miss D. A.	Thomas, E. V.
Hall, David	Weissberg, E.

(*To be concluded*)

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

Jan. 5th.—Meeting of the Editorial Committee, N.V.M.A. at 36, Gordon Square, W.C.1, 2.30 p.m.; Advertisements Sub-committee, 2 p.m.

Jan. 5th.—R.C.V.S. Committee Meetings.

Jan. 6th.—**R.C.V.S. Council Meeting.**

Jan. 7th.—Meeting of the Sussex Division, N.V.M.A., at Brighton, 2.15 p.m.

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Roll of Honour

We learn with much regret that Flying Officer Douglas William Bulpin Taylor, B.Sc. M.R.C.V.S., who was formerly with Mr. L. St. Bel Golledge, of Sherborne, Dorset, is reported missing from operational duties as from August, 1943.

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R.C.V.S. OBITUARY

COLLINS, Walter A., Chancery House, Tenterden, Kent. Graduated London, July 7th, 1885. Died December 11th, 1943; aged 85 years.

LAITHWOOD, James, F.R.C.V.S., Alcumlow Hall, Congleton, Cheshire. Graduated Glasgow April 24th, 1883; Fellowship January 28th, 1891. Died December 21st, 1943; aged 92 years.

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In his younger days Mr. Collins was a great athlete, being with his brother a founder of the Worthing Football Club in 1882, and later the Tenterden Club. He rode to hounds and took a keen interest in all local sports. Mr. Collins was the last of a long lived family.

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THE LATE MR. W. E. LIVOCK, M.R.C.V.S.

Mr. William Edward Livock, M.R.C.V.S., whose death at The Links, Newmarket, at the age of 85 years, was recorded in our last issue, before he retired about a dozen years ago was in practice with Mr. Brayley Reynolds. He possessed a profound knowledge of breeding and had a wide reputation as a judge of a horse.

In his early days Mr. Livock was in Argentina and there made the acquaintance of many of the leading breeders and trainers. He was often closely connected with the breeding and racing triumphs of the late Lord Woolavington, and for many years he was adviser to Mr. J. V. Rank. After his retirement, he was appointed by the Jockey Club to take charge of their stables at The Links.

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Deep sympathy will be extended to Major T. Hicks M.R.C.V.S. of Sleaford, Lincs., in the death of his wife, Elsie G. Hicks, which took place at the Bramhead Nursing Home, Lincoln, on Monday, December 20th.

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PERSONAL

Forthcoming Marriage.—WATSON—YOUNG.—The engagement is announced between John Forrest, son of Mr. and Mrs. L. F. Watson, Stane, Shotts, and Georgina Ogilvie, younger daughter of the late Mr. W. S. Young and Mrs. Young, of Mawcarse,

RECONDITIONED RUBBER BOOTS

The following is an extract from a Board of Trade Explanatory Leaflet (R.R.B./I.A.) which gives details of a scheme under which it is now possible for veterinary surgeons to obtain reconditioned rubber boots without having to surrender their personal clothing coupons:—

Special arrangements have now been made under which, if their existing rubber boots are fit for reconditioning, essential users can turn them in to their retailers and get instead within a matter of days a pair which have already been reconditioned.

For the present, the scheme is confined to knee-length all-rubber boots of British or Canadian make, sizes 6 to 11. The boots will have been reconditioned by firms approved by the Board of Trade, will bear the mark | XRB | as evidence of a prescribed standard of workmanship, and should wear very well. They will be coupon-free and supplied at 18s. 8d. retail. (By comparison, new boots now cost six coupons a pair and about 29s. retail.)

The wearer who has a pair of boots in need of repair should wash the outside of the boots thoroughly and, having made sure that the repairs cannot be done quickly enough locally in the ordinary way, must:—

(1) Get an XRB permit from his sponsoring authority (see below).

(2) Enter on the permit his name and address and the size of boots wanted, and indicate whether, if the boots are found to be unfit for reconditioning, he wants them returned to him; if they are found to be unfit and he has not specifically asked for their return, they will be sent to salvage.

(3) Fasten the boots securely together, attach the permit to them, and take them to his retailer, who proceeds as instructed on the leaflet.

The reconditioner, on receipt of boots (with permit) from a retailer, will, if he is satisfied that they can be reconditioned, attach the permit to a pair of reconditioned boots of the required size, send the reconditioned boots drawn from his stock to the retailer, and recondition the old boots which will then be held in stock against future permits.

The retailer will hand back to the customer the cancelled permit and the reconditioned boots, or the old boots if returned.

Members wishing to take advantage of this scheme can obtain the requisite permit from the Ministry of Agriculture and Fisheries, 1st Floor, 99, Gresham Street, London, E.C.2, and should make it quite clear in their applications that they require permits for the reconditioned boots and not for the purchase of new boots.

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THE VETERINARY PROFESSION: A DISCLAIMER

In view of the erroneous impression created in the minds of many members of the profession by a report, recently published by a daily paper, purporting to give the views upon the veterinary profession of Major Durham Matthews, Chairman of the Bloodstock Committee of the Veterinary Educational Trust, we have pleasure in publishing the following letter, addressed by Major Durham Matthews to Dr. W. R. Wooldridge who raised the matter with him. Dr. Wooldridge did this on behalf of the Trust and latterly on behalf of the Association, following upon the expressions of opinion regarding the report which were voiced at the recent meeting of Council, N.V.M.A.

Lanwades Park,
Newmarket.

December 22nd, 1943.

Dear Dr. Wooldridge,

My attention has just been called to the extraordinary report of an interview with me which appeared in *The Daily Sketch* of December 9th.

I am anxious that the professional bodies associated with veterinary practice shall realise that the remarks attributed to me are completely at variance with my views.

In the first place the Veterinary Educational Trust was launched long before I had the pleasure of becoming associated with it in any way. It was in October of this year that I consented to become Chairman of the Bloodstock Industry Committee, entrusted with the task of interesting bloodstock owners and the racing world in the purposes of the Trust. The efforts of the Committee have been already successful to the extent of securing some £25,000, and we have plans for increasing this amount substantially. It follows that any reference derogatory to the profession would be in direct opposition to the objects of my Committee, and you may rest assured that the alleged quotations as to the "worst veterinary service" and "I have found unbelievable ignorance among so-called vets." were never in fact said by me. I pointed out to *The Daily Sketch* correspondent that the veterinary profession in this country had never received adequate support in the form of private or public endowments, and that this country lagged behind other countries in appreciation of the value to the community of the services of the veterinary profession.

I urged the need for support of the Trust so that the fully qualified veterinary surgeon should be in a position as regards unqualified practitioners similar to that of the doctor or dental surgeon in their respective spheres.

I am writing to you as Chairman of the Veterinary Educational Trust to make my position quite clear, and in view of the difficulties at this late date of having a correction made in the columns concerned, I wonder if you would be good enough to place my views before your profession. Naturally I would not wish to cause offence to members of a profession for whom I have the greatest admiration, and for whom I am hoping to do much.

I am sure that you and all your colleagues will realise that I am only concerned with giving such active assistance as I may to veterinary education and research.

Yours very truly,
(Signed) Durham Matthews.

Dr. W. R. Wooldridge, M.Sc., M.R.C.V.S.,
36, Gordon Square, W.C.1.

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PENICILLIN TREATMENT

In a review of unequalled authority upon the progress now achieved in the elaboration of chemotherapeutic substances recently published in the *British Medical Journal* (October 2nd, p. 411), Sir Henry Dale, G.B.E., M.D., F.R.S., referring to the mycogenous remedies for infections that are now attracting attention, states: "Meanwhile we may note the creation and strengthening of another link between biochemical studies and antibacterial therapeutics. Dubos, in New York, has trained a soil bacillus, by cultural restriction, to give a good yield of peculiar polypeptides having a high toxicity for certain pathogenic bacteria, one of them, gramicidin, being specific in its intense antiseptic action for the Gram-positive cocci. Much more brilliant, however, in its promise for the practical treatment of septicaemic conditions has been the recent progress in the purification and isolation of penicillin. After Fleming's chance observation of the production of this remarkable substance from a colony of *Penicillium notatum*, and his preliminary examination of its properties, and even of its therapeutic possibilities, in 1929, there was a long gap of years. Then, after the discovery of the action of sulphanilamide had shown the possibility of an antibacterial chemotherapy with agents of low toxicity, the interest in penicillin was revived and rapidly extended by the work of Florey and his colleagues at Oxford. They showed how it could be extracted from a culture filtrate and purified so as to make it safe for intravenous administration; and they produced the first clinical evidence of its remarkable therapeutic possibilities. . . . There seems to be a possibility, even a likelihood, that this remedy against infection from a new source may approach, more nearly than any other yet available, to the ideal of toxicity for the infecting organism and complete absence of it for the patient. Here again, however, the effect on the organisms is merely to prevent their multiplication, and not to kill them outright. There can be little doubt that the first pages only are being turned, as yet, of a new and brilliant chapter in the specific treatment of infections."

A drawback to the investigation of penicillin treatment in veterinary practice is that supplies of the material have hitherto been so small in this country as to be inadequate even for proper trial on human patients. It has been manufactured on a large scale, however, under official control in the U.S.A., and investigation of its therapeutic use has been entrusted to 22 groups of workers, who have now summarised the results obtained with 500 cases, representing seven different disease conditions (*J. Amer. med. Ass.*, 1943, **122**, 1217). One group of patients comprised 91 cases of staphylococcal septicaemia: 54 recovered completely or made striking improvement, but there were 34 deaths, which are attributed to possible inadequacy of treatment owing to shortage of supplies or complications such as extensive burns, endocarditis, uraemia, and cancer. A second group contained 137 cases of staphylococcal infection without bacteriaemia: of these, 109 recovered or improved, but it is difficult to assess how many of these were cured by any local treatment that was applied. A third group comprised 33 sulphonamide-resistant streptococcal infections, mostly due to *Str. pyogenes*, and, on the whole, treatment was favourable, but the information recorded is too limited. A fourth group contained 76 cases of pneumococcal infection, and a noteworthy phenomenon was the response of the sulphonamide-resistant cases to moderate doses of penicillin. The development of drug-fastness to these newer chemotherapeutic agents, usually through inadequacy of initial treatment, is now a well-recognised and disturbing complication, as is also the natural occurrence of drug-resistant strains. Happily, the drug-fastness is limited, generally speaking, to the drugs of the same chemical configuration as the drug against which the bacterium is endowed with this property; so that promise lies in the application of a chemotherapeutic agent belonging to a different chemical group, as, for example, here, penicillin in the treatment of sulphonamide-resistant pneumococci. The American report continues by relating that in a fifth group comprising 21 cases of pneumococcal meningitis there were only seven recoveries. Some of these cases were, however, treated before it was realised that penicillin does not enter

the cerebrospinal fluid from the blood stream, and that intrathecal injection of penicillin solutions is safe and effective. This phenomenon is familiar to veterinary workers who have investigated the treatment of surra in horses by means of naganol (Bayer 205) (Edwards, 1926, *J. Comp. Path and Ther.*), when for similar reason fatal trypanosomal meningitis may arise in some acute cases treated intravenously unless concurrent intrathecal treatment is employed. A remarkable case has recently been recorded by Professor A. Fleming (*Lancet*, October 9th, 1943, p. 437) of a man who was apparently dying of a streptococcal meningitis and made a complete recovery after concurrent intramuscular and intrathecal treatment with penicillin. In a sixth group of the American report, comprising 17 cases of subacute bacterial endocarditis, treatment was a complete failure, and endocarditis of whatever kind does not seem to yield to penicillin treatment. In contrast, a seventh group comprising 129 cases of sulphonamide-resistant gonorrhoea were all cured, with the exception of four which relapsed later, by a few intramuscular injections of penicillin.

J. T. E.

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Discussion on Penicillin

At one of the largest meetings ever held at the Royal Society of Medicine, the Section of Experimental Medicine and Therapeutics discussed the present position of penicillin. Professor Fleming opened the discussion and was followed by Professor Florey and other workers.*

Pure penicillin will inhibit sensitive organisms (*Str. pyogenes, Staph. aureus, Str. pneumoniae, Str. viridans, B. anthracis*, and several others) in dilution of 1 in 50 to 100 millions. Among the organisms which are not affected is the bacillus of tuberculosis. The salt of penicillin which is used therapeutically is destroyed by acids and alkalis, by boiling, by oxidising agents and by heavy metals such as copper and lead. It is almost completely non-toxic to the mammalian organism and its activity is not inhibited by serum or pus. It cannot be given by the mouth as it is destroyed by the acid of the stomach, but absorption is rapid following subcutaneous or intramuscular injection. Owing to the very rapid rate of excretion large doses have to be given.

A film made in N. Africa by Professor Florey showed the spectacular results which were obtained by the local treatment of grossly infected war wounds, which, after cleaning and insertion of tubes for the administration of penicillin, were sutured. Out of 171 wounds so treated, complete union was obtained in 104, sub-total union in 60 and failure in 7. Most of the cases were of a type which with normal methods of treatment would obviously have produced chronic invalidity. Even more important than these outstanding results, as Professor Fleming pointed out, is the fact that as soon as the exact nature of penicillin is known the chemists will no doubt be able to produce a whole new series of preparations, some of them perhaps far stronger and with a wider application than the original penicillin.

* *Brit. med. J.*, November 20th, 1943, p. 654.

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MINISTRY OF AGRICULTURE NEWS SERVICE

Milk Quality.—Quality milk means something more than butter-fat content. To the general public quality lies in colour and taste. To this the housewife adds keeping capacity and cream "on top." The valuable vitamin content of the milk lies largely with the dairy farmer. It is quite possible for two samples of milk, from the same breed of cows, to have the same butter-fat content, but to differ considerably in vitamins and mineral salts. Such a difference is more likely to be noticeable in winter than in summer.

During spring and summer grazing on good grass will maintain the vitamin content, specially vitamin A. In winter, however, lack of green food may tend to produce milk with a lower vitamin value. It is in winter feeding that well made and good green hay, together with kale, play such an important part in the quality of the nation's winter milk supply. When frosts have put an end to marrow-stem kale, the feeding of thousand-head can be continued until March.

By giving careful attention to feeding (and this means recording, for rationing and milk recording should go hand in hand) farmers can do much to increase the quantity and raise the quality of our most important national food.

Dairy Farm in Heart of London.—Behind the Mint and within a mile of St. Paul's Cathedral is Swedenburg Square—a quiet corner in the busy warehouse and dock area of East London, where Mr. and Mrs. R. Carson have, for many years, run a successful dairy and milk delivery round. There a large cowshed with other dairy buildings attached provide accommodation for 20 milking cows, as well as chickens and ducks. Although the cows live almost entirely under cover, they appear to have adapted themselves to town life and are in excellent condition.

Machine versus Animal in U.S.A.—About three out of every ten American farmers own tractors, according to the U.S. Bureau of Agricultural Economics. But many non-owners either hire tractors and tractor equipment or exchange labour and equipment for tractor work. With machinery and parts difficult to get the Bureau feels that farmers may be even less inclined than usual to hire out their machines unless they can obtain in exchange labour, machines and other services badly needed on their own farms.

Tractor purchases were of record proportions in 1941, but the upward trend was temporarily halted this year, for production of farm machinery and equipment is not likely to be more than 40 per cent. of 1940 production. The tentative programme for 1944 calls for at least double the 1943 production and numbers of tractors and tractor machines available for use next year seem certain to be of record proportion, says the Bureau.

With this increase in mechanical power, there is a continued decline in numbers of working farm animals and animal drawn machines. The Bureau announces that the number of working animals next year will not only be the smallest for many years, but a relatively high proportion of the animals will be too old for maximum work. Extra machine power will thus be necessary to offset the loss of animal power and to attain the necessary production target.

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Dr. C. Bryner Jones, C.B., C.B.E., will retire from the post of Welsh Secretary to the Ministry of Agriculture on March 31st, 1944, and will be succeeded by Mr. J. Morgan Jones, Registrar of the University College of Wales, Aberystwyth, who will shortly take up his duties. Dr. Bryner Jones will continue to act as one of the Minister's Liaison Officers for Wales.

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To support the representations made by them for a centralisation of animal health and veterinary services in Scotland, the War Committee of the N.F.U. and Chamber of Agriculture for Scotland have submitted to the Secretary of State particulars of several instances where in their experience, difficulties arose as the result of the necessity for questions of importance arising out of the administration of the Diseases of Animals Act being referred to Ministry of Agriculture headquarters in England.

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Kent W.A.E.C. have warned farmers against leaving ditch clearings lying about. Four cows grazing at Stone Pit Farm, Marden, died as a result of eating the roots of water-hemlock (cowbane).

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
Nov. 16th to 30th, 1943 ...	11	2	1	7	20
Corresponding period in—					
1942 ...	23	41	1	19	13
1941 ...	8	—	—	19	28
1940 ...	30	27	—	16	223
Total Jan. 1st to Nov. 30, 1943	264	17	8	202	501
Corresponding period in—					
1942 ...	331	642	27	240	425
1941 ...	370	260	17	188	1,042
1940 ...	527	76	15	179	4,673

NOTE.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified free from Tuberculosis as at November 30th, 1943, was as follows:—

England	Wales	Scotland	Total (Great Britain)
3,955	8,666	3,469	16,090